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New Zealand

Solid Wood Products

Situation and Outlook

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Report Highlights: The forestry industry earned NZ$3.7 billion (US$1.67 billion) in exports in 2001 (up 3 percent on 2000). The amount of harvestable wood is set to significantly increase over the near to medium term future (known as the 'Wall of Wood'). But expansion of processing capacity worth NZ$ 6 billion (US$ 2.6 billion) and infrastructure upgrades worth NZ$ 120 million (US$ 52.8 million) will be needed to accommodate the increased volume, which will have to be destined to exports. The industry has established an initiative to improve wood quality. The main export markets remain Australia, the U.S., and Japan, with China offering the greatest potential for future export growth.

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SECTION I. BACKGROUND

The New Zealand forestry and logging sectors make up about 1.3 percent of total economic activity. Further processing of wood and wood products, paper and pulp manufacturing account for an additional 3.4 percent of GDP. Forestry directly employs about 23,500 people. The increasing scale and importance of the forest industry to the economy is driven by increasing and substantial export earnings (NZ$3.7 billion or US$1.67 billion for the 2001 calendar year, up 3 percent on 2000). Forests cover 30 percent of New Zealand's land area (8.2. million hectares) of which about 6.4 million hectares are indigenous and 1.8 million hectares are planted (90 percent of which in radiata pine and 5 percent in Douglas-Fir). Approximately 19 million cubic metres are harvested annually, mostly from planted forests (99.7 percent). Over previous years New Zealand has been adding about 40,000 hectares of new plantations each year. The amount of harvestable trees is set to increase significantly over the coming 2-15 years (the 'wall of wood').

Globally, New Zealand accounts for 1.1 percent of the world's supply of industrial wood and 1.3 percent of world trade. New Zealand's major competitors are Australia, Chile, South-East Asia, U.S., Canada, and Russia. The roundwood equivalent of 13 million cubic metres is exported, in raw and processed form. One third of the New Zealand harvest is exported as logs, the remainder is milled or used in pulp, paper, and production of other wood products, such as medium density fibreboard (MDF) and panel products. New Zealand exported a total of 1,613,300 cubic metres of lumber and 7,244,300 cubic metres of logs in 2001, up 6 percent and 18 percent, respectively, on the 2000 calendar year.

SECTION II. REVIEW OF THE 2001 EXPORT SEASON

Table 1 (Section V) shows New Zealand's lumber and log exports by country from 1999-2001. Strong demand for logs from some markets has seen volumes and prices continue to rise. Australia has become a very important market for New Zealand forest products, despite a downturn in construction activity last year. Australia purchases pre-dominantly construction lumber, demand for which has recently rebound and left New Zealand mills unable to fill all their orders. However, expected price increases due to the upturn in activity have been difficult to achieve. The U.S. is a relatively new market but has expanded rapidly, particularly with higher value products like dried and dressed lumber. The market for mouldings in the U.S. has been improving steadily but the strengthening New Zealand dollar is causing concerns because an increase in the NZ dollar value impacts more heavily on value added products (the NZ$ has strengthened about 10 percent relative to the US$ over the past six months). The U.S. imported 468,100 cubic metres of NZ lumber in 2001 (up 38 percent on 2000), and 10,600 cubic metres of logs (down 71% on 2000). Korea purchased 3,707,400 cubic metres of logs in 2001 (up 19% on 2000), and 51,200 cubic metres of lumber (up 33 percent on 2000). Demand from Korea is set to remain strong with a stronger economy driving consumption. FOB prices have increased NZ$ 3 to 5 (US$ 1.32 to 2.2) per ton despite the stronger NZ dollar, but expected shipping rate rises of NZ$ 2 (US$ 0.88) per ton are likely to put pressure on prices in May. With current low stocks, exporters expect prices to hold until then. China is an export market with promising potential, partly due to increasing demand from China and partly due to decreasing supplies of tropical hardwood. Predictions are that China will import twice as many logs as Japan, which was the case for

the month of January (2002). Through the period from 1999 to 2001, China increased log imports from New Zealand by 400 percent. NZ exports to China were up by more than 100 percent in 2001 compared to 2000, amounting to a record 946,000 cubic metres (the previous record was 600,000 cubic metres in 1989). Chinese demand has rebound since the Chinese New Year and prices have been rising in tandem with Korean prices. However, the industry is cautious about projections for China. Japan imported 1,593,000 cubic metres of logs (down 2.4 percent on 2000) and 288,900 cubic metres of lumber (up 7 percent on 2000) as it is increasing its use of lumber in the construction sector. Indonesia, Philippines, Malaysia, Thailand, and Singapore are also markets with potential for increased NZ exports.

Wood panel products' exports of which the majority is medium density fibreboard (MDF) have increased to Japan, the U.S., China, and Korea, but decreased to Taiwan. Total wood panel exports were up 2.8 percent by volume on the 2000 calendar year (see Table 2, Section V).

SECTION III. CURRENT ISSUES

Processing Capacities and Infrastructure Constraints

The forestry sector is set to harvest large areas of forests – the so-called "wall of wood" – as 60 percent of all trees under the age of 15 years will have to be harvested over the next 15 years. About 1.8 million hectares are currently planted in pine providing an annual harvest of about 19 million cubic metres which is forecast to rise to 29 million cubic metres in 2003 and 35 million cubic metres by 2015. As domestic demand is likely to remain somewhat static, any increase in production will have to be absorbed by export markets. Table 4 (Section V) shows the projected volumes of logs and lumber available for export over the next few years. These increased volumes pose significant challenges to the industry. The processing industry's log capacity has increased significantly over the last decade, but not at a rate able to keep pace with the increase in wood supply. In fact, some economists argue that the number of trees being currently cut down for harvest is less than what is actually ready for harvest because of low prices and an insufficient harvest-support infrastructure (especially road upgrades) to cope with higher volumes. One of the leading forestry companies predicts that New Zealand needs investments in processing capacity worth NZ$ 6 billion (US$ 2.64 billion) over the next twenty years to deal with the 'Wall of Wood'. However, due to the global downturn in the forest industry, New Zealand's lack of cost competitiveness in further processing (compared with Indonesia and Brazil in particular, and increasingly China), and high logistics costs, has seen past and planned investments fall short of what is required (NZ$ 531 million or US$ 233.6 million to date, compared with NZ$ 1.27 billion or US$ 558.8 million between 1994-1999). Costs for upgrading the roading infrastructure are estimated at NZ$ 120 million (US$ 52.8 million). Although, the industry has recently proposed to increase the size of logging trucks to compensate for the high transportation costs. Upgrades for major ports will also be required. Investments in work force are also considerable. According to government estimates the forestry industry will need to grow the work force by 100 percent over the next four years to meet increasing processing requirements. The industry will have nearly 10,000 trainees by the end of 2002, which represents an increase of more than 100 percent compared with four years ago. That number has to double again in four years time.

Investments in further processing capacities to add value are deemed crucial to take advantage of the increased volume if the industry does not want to lose opportunities to Asian wood manufacturers, in terms of adding value to wood products. This would also lessen the exposure to commodity price fluctuations and price competition from more cost effective producers. Strategic alliances between growing and processing companies are viewed as an important means to enable industry participants to diversify their product range into wood panel production (in particular medium density fibreboard, MDF). However, not everyone agrees that further processing is the solution (see discussion Section IV).

Biosecurity Program

The industry argues that New Zealand faces immense potential pest and disease problems. A virtual biosecurity/forest health research program is planned by the industry, which would not only improve the understanding of pests and diseases to avoid substantial mortality and growth losses or preventing serious pests to become established in New Zealand, but could also be used as a valuable negotiation tool to gain access to export markets. The industry will report on any progress over the next 12 months.

National Standards

National standards for plantation forest owners are to be developed soon. These standards are likely to increase requirements of forest growers to maintain areas of indigenous forest and increase reserve land. This is expected to help New Zealand retain market access and strengthen New Zealand's international reputation as a green producer.

Wood Quality Initiative

A wood quality initiative between the industry and the government has been set up to investigate means to predict and measure the quality of wood ready for harvest. According to industry experts, the quality of New Zealand's wood is deteriorating and increasingly variable. These changes are believed to be caused by reductions in rotation length, from 30 to 35 years down to 25 to 30 years, and the use of genetic stock used in replantings 15 years ago, which is now found to be producing 'suspect' wood. As such, it is recommended that reduced rotation length should not be the priority in genetic stock selection. The program, which is led by the Forest Industries Council, will look into fundamental cell-level wood structure to better understand what drives critical wood quality characteristics, as opposed to the previous wisdom that denser wood was necessarily better. The industry's concerns are based on the following observations:

1. About 98.5 percent of the value of harvested tree is in saw logs rather than in pulp or fibre logs. Thus wood properties should reflect solid-wood end use.

2. New Zealand sawmills cutting structural or framing timber achieve only 50 percent of the recovered lumber in these higher value grades. The remaining 50 percent is industrial or boxing grades. Comparatively, Australian mills reportedly achieve 80 percent while North American mills achieve over

90 percent.

3. Up to 1996, prices for NZ radiate pine matched or exceeded Ponderosa pine. Now, it is about 60 percent of prices for Ponderosa pine because of problems with stability and internal checking. This is estimnated to lead to losses of about NZ$ 200 million (US$ 88million) per annum.

4. About 90 percent of internal checking or splitting inside the wood, which becomes apparent during processing, is caused by 10 percent of the logs.

The commercial benefits of a study on the above issues include the possibility for reducing end-product variability and rejection rates by segregating logs at harvest and timber earlier in the processing chain. The industry is looking at introducing a commodity levy to fund the study.

Government Puts Forward Proposed Kyoto Policies

While the Government has listened to some of industry's concerns about the impact of ratification, business leaders remain concerned about the Government's preferred policies on the Kyoto protocol that were just announced (April 30, 2002). Submissions on the policies close June 14, and the Government intends to ratify the protocol in August this year. The Governments preferred policies are: (1) a tax on greenhouse gas, based on world carbon prices but capped at NZ$ 25 (US$ 11) per ton of carbon dioxide equivalent. Revenue will be redistributed into the economy via tax cuts or similar measures; (2) Government incentives for projects reducing greenhouse gas emissions; (3) negotiated greenhouse reduction agreements with industries or groups that may have difficulty paying the full price for emissions because it would put their competitiveness at risk; (4) an exemption of farmers from any carbon emission trading regime during the first "commitment" period (2008-2012) as livestock farmers have no means of addressing the "belching" issue immediately – in return the industry must invest in research to identify ways to reduce emissions; and (5) the Government will retain carbon sink credits and liabilities allocated to New Zealand in recognition of forests planted after 1990. A portion of the credits and any surplus will be used as incentives to create more carbon sinks and redistributed into the economy.

For forestry the crucial question is whether ratification enhances the wood processing strategy of attracting additional investment of NZ$ 3 billion (US$ 1.32 billion) by 2010 to cope with the 'Wall of Wood'. The protocol allocates sink credits for forests planted after 1990, but also treats logging as a liability. However, these liabilities would be limited to 5 percent of the forest area expected to be harvested during the protocol's first commitment period between 2008-2012.

While the Government has tried to neutralise any potential downsides, the overall impact of ratification is still seen as a concern by the forestry industry because New Zealand will ratify ahead of major trading partners and competitors from developing countries. Reactions to the suggested policies were mixed: business and farming groups remain wary; environmental groups consider the policies as too soft.

SECTION IV. OUTLOOK

Table 3 (Section V.) shows the projected increases in lumber production over the next few years. This expansion will also mean that an additional 20,000 people will need to be employed. Over the next 15 years projections are even higher. Plantation forests are projected to cover approximately 2.2 million hectares (8 percent of New Zealand's total area), to supply 35 million cubic metres per annum, and to add an additional NZ$ 5 billion (US$ 2.2 billion) to the New Zealand economy. The industry will also require an additional 37,000 people (harvesting workforce).

While the industry believes that the export of logs will continue to be a major part of New Zealand's forest product export-mix, it is also aware that a more diversified product range of value-added products can potentially ensure the industry's future profitability. The current high levels of undiversified log exports is by many seen as a lost opportunity for further processing in New Zealand. However, it is unlikely that further processing can keep pace with the increasing amounts of forests becoming ready for harvest. While prices and volumes are currently improving to levels prior the Asian economic crises, the lack of markets for processed radiata may mean that log exports will become an increasing component in the export mix. Table 4 (Section V.) shows the volume of lumber and logs that is expected to be available for export over the next few years.

Industry experts believe that New Zealand exporters should focus their efforts on the U.S., Australian and Japanese markets and not spread their efforts too widely. Australia is likely to remain a major market for value-added pine products. While Australia's own growing wood production is likely to replace the structural part of the market as it becomes self-sufficient, it has difficulty in competing in the appearance grade market where demand will remain strong. The U.S. market offers major opportunities other than sawn timber, i.e. mouldings, door components and dressed boards, but supply needs to be highly coordinated as not to cause a glut in the market. The industry anticipates that India can absorb a substantial increase of lower grade logs over the next few years as consumption may increase 100 percent by 2010. India is also seen as a potential market for plywood. A plant with an annual capacity of 200,000 square metres is currently being set up in India. Logs for the plant are to be sourced from New Zealand. Exports of logs to China are projected to dramatically increase once sales networks become more established. As China reduces tariffs on value-added products as part of its WTO commitments, sales of MDF, plywood, and mouldings are also likely to increase. However, industry experts state that the industry must change to a more serious approach to selling wood products in China from a current ad-hoc approach. New Zealand has recently sent a group of exporter representatives to Shanghai to promote New Zealand radiata. China offers long term growth potential. Twentyone million housing projects start each year in China; some 40 million cubic metres of wood are imported (p.a.) because local production is decreasing as forests are being protected for conservation reasons. Of that, China might purchase 1.5 million cubic metres from Australasian sources in 2002. While pine was previously banned in the construction of houses in China, higher quality logs from other countries are now being considered for inclusion in a new building code, for which New Zealand hopes its species will be included (NZ officials raised this issue with Chinese officials in March during a trip there). While annual forest product export growth is forecast at 5 percent per annum, the industry hopes that exports to China might grow at 7 percent over the next two years.

Lumber exported at present goes to Southern China to make furniture and other wooden products for re-export to the U.S. and Europe. China has labor cost and manufacturing skill advantages which means that a lot of NZ wood ends up as furniture in exports markets via Chinese manufacturing. New Zealand is not able to compete on that basis but believes that the manufacture of high-end furniture, for the Japanese market, may hold real potential. However, targeting higher-priced furniture exports to Japan will only be possible if New Zealand has more skilled high-end furniture designers. Japan also has good growth prospects for engineered products such as LVL (laminated veneer lumber), glulam, mouldings, and DIY products.

In regards to the export of MDF – which represents the majority of all wood panel products – industry officials believe that New Zealand needs to place more emphasis on product development, promotion and marketing in order to protect and expand the worldwide market for MDF of which Australia and New Zealand share NZ$ 793 million (US$ 349 million). With shortages projected in North Asia and the U.S., significant export opportunities are foreseen. New Zealand's MDF capacity is 875,000 cubic metres of which less than 20 percent is sold on the domestic market. Consequently, China's, Japan's, and Korea's substantial imports that are forecast by 2006 create excellent opportunities. In New Zealand, demand is forecast to fall, leaving more than 80 percent of production for export. Table 5 (Section V) shows the forecast production of wood panel products (MDF-only data was not available) over the coming years. In fact, the Huaguang Forest Co of China – a wood processing company with more than 20,000 employees producing mainly fibreboard and plywood – recently purchased 33,606 ha of East Coast Forest from Rayonier NZ (US-owned). The forest unit stretches from Tolaga Bay to the East Cape and will be sold for NZ$ 145.9 million (US$ 63.5 million). Huaguang will process the logs in China.

New Zealand companies are also expanding their production capacities for LVL. With an annual production of 80,000 cubic metres per annum, New Zealand will become the world's largest producer of LVL manufactured from radiata pine. Changes in Japan's housing market – especially in the quality assurance law – are viewed as improving export potential. Plans are to supply LVL in large sizes (over 90 millimetres thick) which currently can only be achieved by 6 percent of global LVL production capacity, even though world-wide capacity is rapidly increasing. A leading New Zealand company wants to target Australia with LVL in the structural applications market, which is currently still dominated by solid wood and steel products. LVL has improved engineering properties and an excellent strength-to-weight ratio.

The NZ forest industry's future in further processing remains mixed. New Zealand is cost effective at growing trees, but in terms of further processing, a current lack of adequate investment in processing capacities may force New Zealand to continue to remain more a commodity log exporter. New Zealand is, however, trying to attract more processing investment, including from U.S. companies. According to some experts, New Zealand needs to achieve cost conditions similar to those in Indonesia, Brazil, and China, which it currently cannot meet. The lack of New Zealand investment in processing capacity may increasingly see other countries like China purchase logs in New Zealand but do the processing somewhere else (per the recent Huaguang purchase of 30,000 hectares of NZ forests). Tariff escalation – often overlooked by proponents of further wood processing – is another issue that significantly adds to the costs of value-added products.

SECTION V. STATISTICAL TABLES

Table 1: Log and Lumber Exports by Destination

Export	year	lumber exports		log exports	
Destination	(Jan-Dec)	cubic metres	US$ million	cubic metres	US$ million
	1999	328,900	102.6	36,300	2.3
U.S.	2000	338,400	100.6	36,000	2.6
	2001	468,100	142.1	10,600	1.1
	1999	360,700	100.8	n.a.	n.a.
AUSTRALIA	2000	447,700	116.5	n.a.	n.a.
	2001	334,600	82.4	n.a.	n.a.
	1999	245,100	38.7	1,665,100	86.8
JAPAN	2000	270,800	44.2	1,632,000	87.2
	2001	288,600	39.9	1,593,000	87.4
	1999	134,000	17	119,600	4.7
TAIWAN	2000	137,400	16.4	755,800	3.6
	2001	153,500	14.5	95,500	4.7
	1999	91,400	17.8	214,100	10.3
CHINA/H.K.	2000	106,200	20.6	401,800	19.6
	2001	134,400	21.5	946,000	43.2
	1999	40,600	4.45	3,250,900	138.7
KOREA	2000	38,500	3.7	3,111,600	146.8
	2001	51,200	4.4	3,707,400	164.2
	1999	173,900	39.95	518,200	30.4
OTHER	2000	181,800	31.2	199,100	51.6
	2001	182,600	32.1	891,800	35.2
ALL	1999	1,374,600	321.3	5,804,200	273.2
COUNTRIES	2000	1,520,800	333.2	6,136,300	311.4
	2001	1,613,000	336.9	7,244,300	335.8

Source: New Zealand Timber Industry Federation

Table 2: Wood Panel Exports by Destination

Export Destination	year (Jan-Dec)	Panel Products cubic metres	Exports US$ million
	1999	312,011	n.a
JAPAN	2000	336,964	108.4
	2001	357,997	119.5
	1999	151,706	n.a
AUSTRALIA	2000	176,615	42.1
	2001	138,638	30.5
	1999	13,619	n.a
U.S.	2000	44,374	9.6
	2001	83,811	18.3
	1999	24,103	n.a
CHINA	2000	50,764	8.3
	2001	68,881	12.4
	1999	18,473	n.a
KOREA	2000	35,916	5.7
	2001	61,699	9
	1999	22,921	n.a
PHILIPPINES	2000	9,367	1.8
	2001	33,693	5.5
	1999	60,293	n.a
TAIWAN	2000	73,904	12.1
	2001	31,522	5.5
	1999	47,082	n.a
HONG KONG	2000	31,023	2.9
	2001	24,248	4.2
	1999	77,318	n.a
OTHER	2000	68,696	17.2
	2001	50,160	11.3
	1999	727,526	192.6
TOTAL	2000	827,623	208.1
	2001	850,649	216.2

Source: MAF, Statistics New Zealand

Table 3: Lumber Production and Stocks

Year	Lumber Production	end of year stocks
(Jan-Dec)	cubic metres	cubic metres
1999	3,653,000	481,000
2000	3,879,000	567,000
2001	3,790,000	486,000
2002*	3,780,000	n.a.
2003**	3,920,000	n.a.
2004**	4,005,000	n.a.
2005**	4,120,000	n.a.

Source: MAF
* forecast
** projections

Table 4: Lumber and Log Volumes Available for Export

	lumber volumes available for export	log volumes available for export
Year	cubic metres	cubic metre
2002*	1,660,000	6,280,000
2003**	1,780,000	6,575,000
2004**	1,840,000	7,180,000
2005**	1,940,000	7,850,000

Source: MAF
* forecast
* projections
Note: The forecast volumes for 2002, 2003, and 2004 for log exports have already been exceeded in the 2001 calendar year due to a strong economic recovery in Korea and growth in China. As these figures are the only forecasts available at the time of the release of this report, we expect that updated forecasts by MAF will take the recent developments into consideration and revise the figures upwards.

Table 5: Wood Panel Production and Export Availability

	Production of Panel Products	Exports of Panel Products
Year	cubic metres	cubic metres
1997	951,532	611,407
1998	999,187	565,103
1999	962,687	727,526
2000	1,172,880	827,623
2001	1,249,719	850,649
2002*	1,300,000	860,000
2003**	1,370,000	920,000
2004**	1,430,000	980,000
2005**	1,510,000	1,050,000

Source: MAF
* forecast
** projections